

**ABSTRACT**

Methods and apparatuses for iterative parameter estimation are described. The iterative parameter estimation includes performing a first estimation of a first portion of a signal to obtain first parameters of the portion of the signal, wherein  
5 the signal contains no known data symbols. The first portion of the signal is demodulated using the first parameters to recover data symbols. The demodulated first portion of the signal is checked to confirm correct demodulation of the first portion of the signal. A second estimation of the first portion of the signal is performed using the recovered data symbols to obtain second parameters of the  
10 first portion of the signal. Then, a second portion of the signal is demodulated using the second parameters when the first portion of the signal is correctly demodulated.